# EXHIBIT 1 USGS DATA



Water-Data Report 2012

#### 09484600 PANTANO WASH NEAR VAIL, AZ

Santa Cruz Basin Rillito Subbasin

LOCATION.--Lat 32°02′09", long 110°40′37" referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.14, T.16 S., R.16 E., Pima County, AZ, Hydrologic Unit 15050302, on right bank 60 ft upstream from dam, 2.2 mi southeast of Vail, and 20 mi southeast of Tucson City Hall.

DRAINAGE AREA .-- 457 mi<sup>2</sup>.

#### SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1959 to Sept. 1974, water years 1975-89 (annual maximums only), Oct. 1989 to current year.

- GAGE.--Water-stage recorder and concrete weir. Elevation of gage is 3,205 ft above sea level, from topographic map. Jan. 1959 to Sept. 1974 (water-stage recorder) and Oct. 1974 to Sept. 1989 (crest-stage gage) at same site and datum.
- REMARKS.--Records poor including estimated daily discharges and those greater than 200 ft³/s, which are poor. No known diversion above station.

  Records published herein represent flow by gage. Infiltration flow is not included. Base runoff past gage station consists of downvalley underflow that is brought to the surface by the concrete dam 60 ft downstream, which extends to bedrock.
- EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,000 ft³/s, Oct. 1 or 2, 1983, gage height, 15.25 ft, from inside highwater mark, from rating curve extended above 2,000 ft³/s on basis of slope-area measurements at gage heights 10.9 and 24 ft; no flow, June 26 to July 13, Aug. 7, 1971 (result of work on infiltration gallery), June 27 to July 13, 1973 (result of ponding during construction work on dam), May 28 to June 12, July 12, 13, 17, and 18, 1974, and June 17-20, 2006.
- EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1930, about 38,000 ft³/s, Aug. 11, 1958, gage height, about 24 ft, from floodmark, from slope-area measurement.
- EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3400 ft<sup>3</sup>/s, Aug. 21, 2012 at 1720, gage height, 9.94 ft, from floodmark; minimum daily discharge, 0.17 ft<sup>3</sup>/s, July 6 to 12, 2012.

### Water-Data Report 2012

## 09484600 PANTANO WASH NEAR VAIL, AZ—Continued

# DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012 DAILY MEAN VALUES

[e, estimated]

						te, estanate						
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep
1	0.33	0.35	0.46	0.55	0.88	0.40	0.46	0.42	0.36	0.26	e11	0.45
2	11	0.36	0.58	0.63	0.81	0.37	0.48	0.41	0.35	0.28	e0.74	0.43
3	0.58	0.35	0.59	0.66	0.70	0.34	0.54	0.39	0.35	5.3	e0.43	0.43
4	0.57	0.29	0.62	0.70	0.61	0.33	0.53	0.38	0.36	1.0	e0.43	e7.0
5	0.58	0.44	0.48	0.60	0.59	0.51	0.50	0.39	0.31	0.19	e0.43	e0.50
6	0.90	0.49	0.24	0.47	0.53	0.50	0.48	0.41	0.30	0.17	e0.43	3.8
7	1.1	0.27	0.27	0.51	0.48	0.49	0.48	0.51	0.30	0.17	e0.43	0.29
8	0.96	0.29	0.29	0.55	e0.46	0.45	0.44	0.54	0.28	0.17	e0.43	0.28
9	0.92	0.29	0.34	0.63	0.41	e0.54	0.43	0.59	0.27	0.17	e0.43	0.26
10	0.91	0.29	0.37	0.70	0.37	0.54	0.42	0.67	0.28	0.17	e0.43	15
11	0.89	0.29	0.38	0.74	0.30	0.50	0.39	0.62	0.28	0.17	e0.43	e13
12	0.88	0.33	0.43	0.76	0.25	e0.55	0.40	0.56	0.30	0.17	e0.43	e2.0
13	0.86	0.48	0.48	0.80	0.24	e0.58	0.38	0.54	0.30	10	e0.43	e26
14	0.85	0.45	0.50	0.84	0.54	e0.58	0.93	0.51	0.30	6.1	e11	e4.6
15	0.85	0.27	0.47	0.75	0.92	e0.58	0.98	0.48	0.30	9.2	e1.2	1.7
16	0.77	0.29	0.40	0.84	0.75	e0.58	0.91	0.47	0.38	4.1	e0.80	1.9
17	0.76	0.29	0.49	0.89	0.74	0.54	0.82	0.45	0.37	0.37	e70	2.1
18	0.74	0.33	0.50	e0.96	0.58	0.62	0.77	0.44	0.33	0.33	e0.70	1.4
19	0.73	0.35	0.50	e0.91	0.53	0.64	0.74	0.44	0.31	0.33	e0.70	0.58
20	0.63	0.37	0.55	0.89	0.60	0.64	0.71	0.42	0.31	0.33	e0.70	0.40
21	0.65	0.32	0.58	0.85	0.47	0.57	0.70	0.40	0.30	16	e173	0.43
22	0.63	0.22	0.58	0.86	0.33	0.54	0.62	0.38	0.29	1.2	e15	0.43
23	0.60	0.25	0.59	0.94	0.38	0.53	0.50	0.37	0.30	0.60	e27	0.44
24	0.64	0.25	0.65	0.88	0.44	0.58	0.50	0.36	0.31	0.28	4.7	0.50
25	0.56	0.29	0.60	0.85	0.42	0.54	0.51	0.35	0.34	0.27	0.49	0.51
26	0.50	0.33	e0.57	0.93	0.37	0.56	0.52	0.36	0.37	0.27	e0.42	0.47
27	0.41	0.35	e0.53	0.97	0.35	0.54	0.58	0.38	7.0	0.34	e0.43	0.49
28	0.40	0.35	e0.52	1.1	0.31	0.53	0.58	0.38	0.37	e36	0.41	0.53
29	0.41	0.36	0.55	1.2	0.37	0.55	0.61	0.36	0.29	e0.52	0.39	0.50
30	0.41	0.43	0.57	1.1		0.53	0.55	0.37	0.24	e0.43	0.43	0.46
31	0.35		0.58	0.93		0.46		0.38	=	e5.2	0.43	
otal	31.37	10.02	15.26	24.99	14.73	16.21	17.46	13.73	16.15	100.09	324.27	86.88
/iean	1.01	0.33	0.49	0.81	0.51	0.52	0.58	0.44	0.54	3.23	10.5	2.90
/lax	11	0.49	0.65	1.2	0.92	0.64	0.98	0.67	7.0	36	173	26
/in	0.33	0.22	0.24	0.47	0.24	0.33	0.38	0.35	0.24	0.17	0.39	0.20
Ac-ft	62	20	30	50	29	32	35	27	32	199	643	172
Cfsm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.0
n.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2012, BY WATER YEAR (WY)

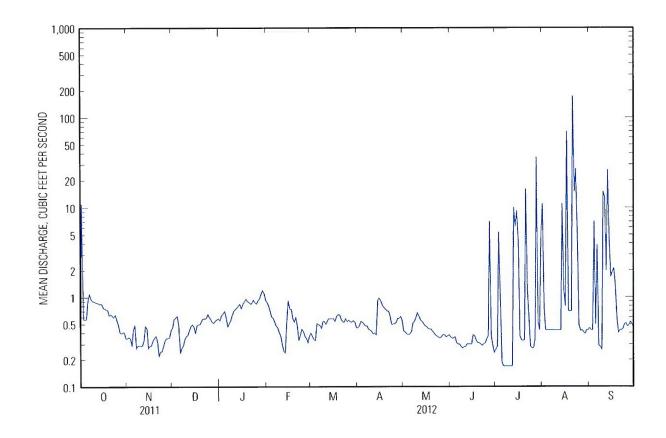
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2.56	1.93	4.18	5.27	5.02	3.17	1.80	1.06	1.56	17.2	18.7	8.60
Max	45.6	38.7	50.3	111	75.1	21.2	12.0	2.62	20.8	82.5	92.6	105
(WY)	(2001)	(2001)	(1966)	(1993)	(1998)	(1998)	(1998)	(2004)	(2000)	(2006)	(1971)	(1964)
Min	0.10	0.10	0.09	0.09	0.10	0.12	0.18	0.18	0.07	0.22	0.28	0.13
(WY)	(1974)	(1974)	(2010)	(2003)	(1974)	(1974)	(2011)	(2010)	(1974)	(1997)	(2009)	(2010)

Water-Data Report 2012

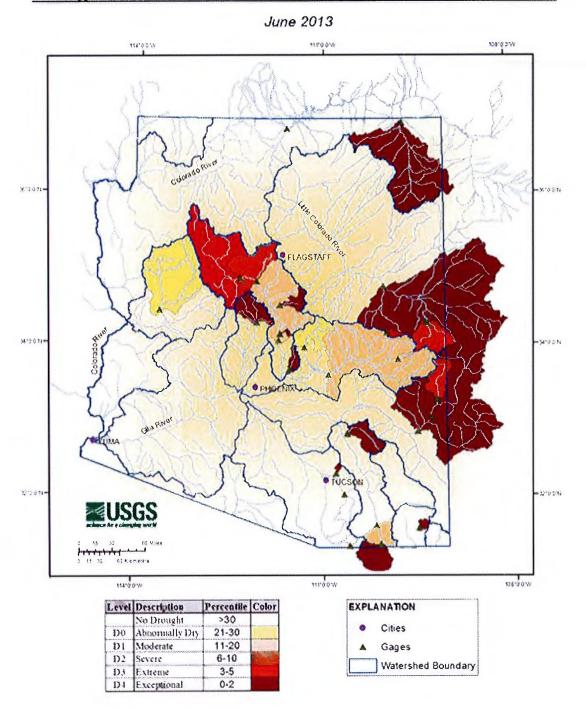
## 09484600 PANTANO WASH NEAR VAIL, AZ—Continued

### **SUMMARY STATISTICS**

	Calendar Yea	r 2011	Water Year	r 2012	Water Years	1960 - 2012
Annual total	1,924.05		671.16			
Annual mean	5.27		1.83		5.95	
Highest annual mean					15.7	1998
Lowest annual mean					0.74	2009
Highest daily mean	400	Jul 4	173	Aug 21	2,230	Sep 10, 1964
Lowest daily mean	0.03	Jul 23	0.17	Jul 6	0.00	Jun 26, 1971
Annual seven-day minimum	0.10	Jun 19	0.17	Jul 6	0.00	Jun 26, 1971
Annual runoff (ac-ft)	3,820		1,330		4,310	
Annual runoff (cfsm)	0.012		0.004	l.	0.013	
Annual runoff (inches)	0.16		0.05		0.18	
10 percent exceeds	1.2		0.97		4.1	
50 percent exceeds	0.25		0.49		1.0	
90 percent exceeds	0.14		0.29		0.20	



# **Drought Levels Based on Monthly Streamflow Discharge**



# **EXHIBIT 2**

# PAG CIENEGA CREEK DATA

# Pima County's Cienega Creek Natural Preserve

Surface Water and Groundwater Monitoring Project – PAG Annual Report

# **Fiscal Year 2010-2011**





Prepared for the Pima County Regional Flood Control District by Pima Association of Governments

T16S, R Mescal Wish T17S. R Pima Association of Governments Empirita-2 O'Leary Windmill Cienega Creek Natural Preserve Township, Range Lines Jungle Monitoring Sites in Cienega Creek Natural Preserve Tilted Beds Water Quality Site Photo Stop Marsh Station < < ₽ Davidson #2 Flow Direction Extent of Surface Flow Monitoring Groundwater Monitoring Well Upper Davidson Canyor Canyon Canyon Streamflow Monitoring Site T16S. REP T175, P1 0.5 T165, R16E T17S. R16E Road or Highway Tributary Railroad PNZ Pantano Wash July 2009

Figure 1A. PAG Monitoring Site Locations in the Cienega Creek Watershed

Table 1. Monthly Streamflow Volumes (July 2010 - June 2011)

DATE	FLOW (cfs) Marsh Station	FLOW (cfs) Tilted Beds
Month	nly Monitoring Data	
July 2010	0.20	0.00
August 2010	0.10	0.00
September 2010	0.34	0.00
October 2010	0.27	0.00
November 2010	0.25	0.00
December 2010	0.48	0.00
January 2011	0.68	0.00
February 2011	0.59	0.00
March 2011	0.51	0.00
April 2011	0.33	0.00
May 2011	0.09	0.00
June 2011	0.05	0.00

	<sup>12</sup> ∦Re	ent Ani	nual Mea	n Flows (cfs	Utass	
2006-2	007/AVERA	GE N	V. Salah	106 אין אין	0	00
2007-2	008 AVERA	GE 💹		0.99 [4 4	0	07
2008-2						
2009-2	010 AVERA	GE :		0,89 40 1	<u> </u>	00
2010-2	011/AVERA	GE :	事物病	0.32    74.9%		00 (44)

# Flow Change Per Specified Period (cfs)

06-07 to 07-08 CHANGE (1)	- 0.07	+ 0.07
07-08 to 08-09 CHANGE (1)	+ 0,17	+ 0.02
08-09 to 09-10 CHANGE (1)	- 0.77	- 0.09
09-10 to 10-11 CHANGE (1)	- 0.07	- 0.00

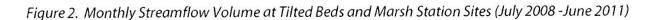
## Table Notes

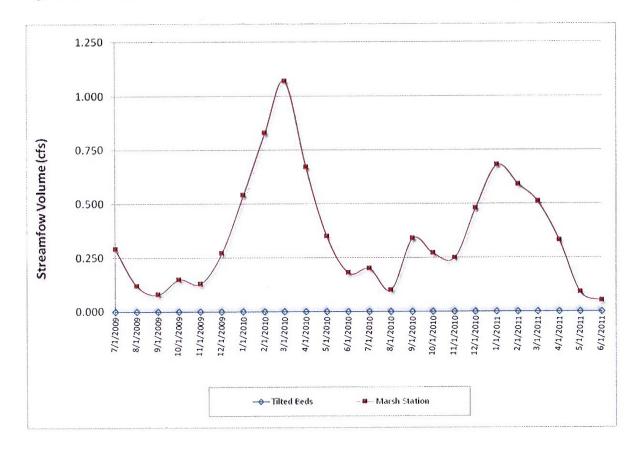
PAG measured all flows with a USGS Pygmy Flow Meter.

(1) = "CHANGE" is defined as the difference between annual averages

"+" = Increase in discharge

"-" = Decrease in discharge







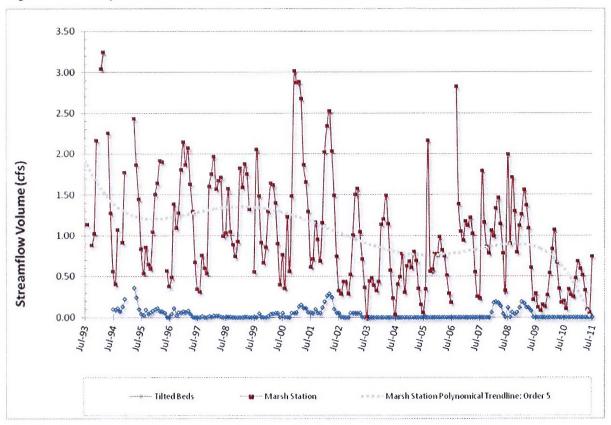
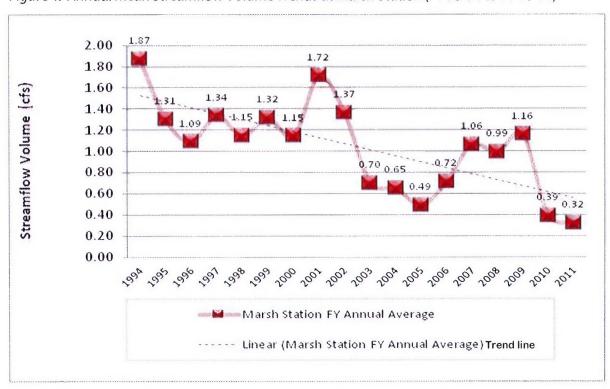


Figure 4. Annual Mean Streamflow Volume Trends at Marsh Station (FY 93-94 to FY 10-11)



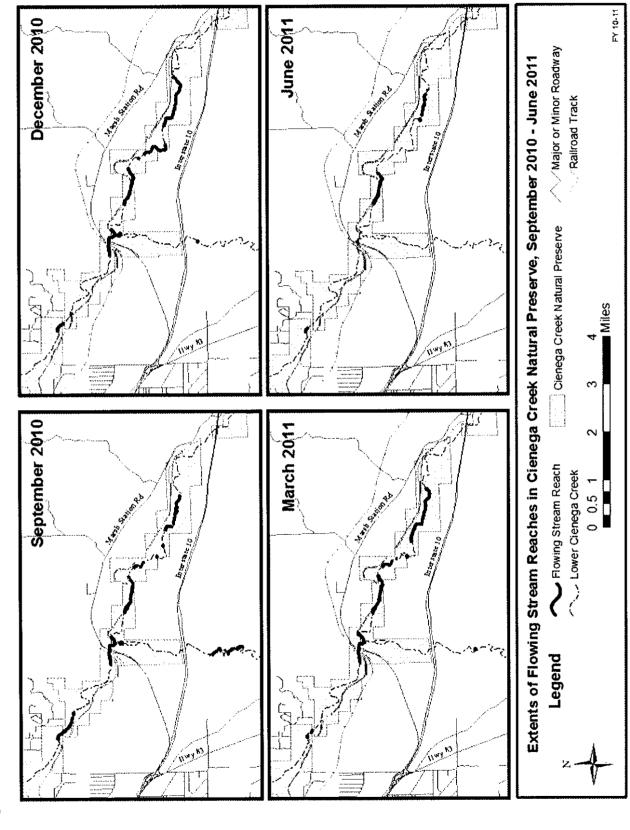
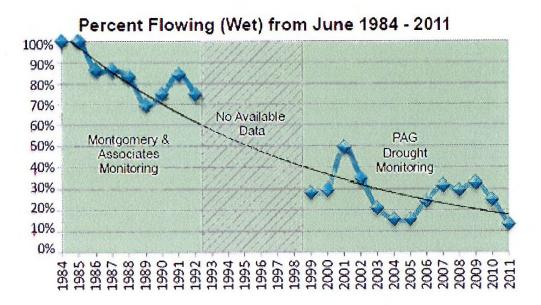


Figure 8. Maps of Cienega Creek and Davidson Canyon, Quarterly Flow Extent (Sep. 2010 - June 2011)

Figure 12. Graph of Percent of Creek Length Flowing in June: Perennial Flow



100% flow refers to the 9.5 miles of creek flow that were present in the wet years of the mid 1980's. This 9.5 miles of creek channel starts at the I-10 overpass at the upstream end of the preserve down to the dam and the downstream end of the preserve. Data is available from the 1970s which reveal less than 100% flow, but that monitoring did not take place in June and so is not included in this graph. Since June is typically the driest time of year, but it can be stated regardless that 100% did not flow perennial those years.

# **EXHIBIT 3**

# DRAFT LETTERS OF INTENT WATER RIGHTS

## [Rosemont Copper Company Letterhead]

Draft July 9, 2013

Suzanne Shields Director Pima County Regional Flood Control District 97 E. Congress, 3<sup>rd</sup> Floor Tucson, AZ 85701-1797

Re: Letter of Intent on Temporary Water for Cienega Creek Natural Preserve Pilot Project

Dear Ms. Shields:

This Letter of Intent is intended to memorialize discussions between the Pima County Regional Flood Control District (PCRFCD) and Rosemont Copper Company (Rosemont) concerning a program for delivering water controlled by Rosemont in Pantano Creek for the creation of a pilot project designed to demonstrate the feasibility of reviving and maintaining habitat in the Cienega Creek Natural Preserve.

Rosemont has offered to use its best efforts to effectuate the following:

- Rosemont will cooperate with the Seller of the Water Rights currently associated
  with the Del Lago Dam and golf course to allow controlled releases of up to 46
  acre feet per year into Pantano Creek without affecting the permanent water rights
  of the Seller or Rosemont.
- Rosemont will cooperate with PCRFCD to select up to three release points along
  the existing Del Lago pipeline so that water may be released at regular intervals to
  stream bank and riparian areas adjacent to the natural channel of Pantano Creek
  (or its immediate ephemeral tributaries) in the area between the dam and Colossal
  Cave Road, commencing in calendar year 2014.
- Rosemont will cooperate with the Seller and PCRFCD to construct the necessary release valves at the selected locations along the pipeline, with construction intended to begin early in the first quarter of calendar year 2014. Reasonable metering equipment will be installed to determine the quantities of the releases. All will be done at Rosemont's sole cost.
- Rosemont will provide the necessary labor and oversight to make the controlled releases from the release valves in accordance with its agreement with the Seller, and shall provide all data accumulated on the time and volume of those releases to PCRFCD.
- PCRFCD will be responsible for accumulating data on the results of the pilot project and demonstration of the effect of the releases, and will share that information with Rosemont.
- The pilot project is intended to begin releases in the late first or early second quarter of 2014 and continue through the year (up to the maximum of 46 acre

feet), and continue again through calendar year 2015 (up to an additional 46 acre feet). At the end of the project, PCRFCD and Rosemont will cooperate to develop a final analysis of the results of the pilot project.

We believe that this pilot project represents a unique opportunity to make releases of water at strategic locations and in controlled circumstances, so as to provide insight and understanding of system responses to augmented water supplies.

This LOI is not binding on either party, and creates no legal obligations. It is intended merely as a statement of interest to proceed in good faith. Neither party will be bound to any obligation unless and until a formal agreements are prepared, approved and executed by the parties. We witness this statement by our mutual signatures below.

Jamie Sturgess	Pima County Regional Flood Control District			
By: Jamie Sturgess	By: Suzanne Shields			
Its:	Its: Director			

# [Rosemont Copper Company Letterhead]

Draft July 9, 2013

Suzanne Shields Director Pima County Regional Flood Control District 97 E. Congress, 3<sup>rd</sup> Floor Tucson, AZ 85701-1797

Re: Letter of Intent on Permanent Water for Cienega Creek Natural Preserve In Lieu Fee Mitigation Program

Dear Ms. Shields:

This Letter of Intent is intended to memorialize discussions between the Pima County Regional Flood Control District (PCRFCD) and Rosemont Copper Company (Rosemont) concerning a permanent water supply for the creation of an In Lieu Fee (ILF) mitigation project, compliant with U.S. Army Corps of Engineers 2008 mitigation rule.

Rosemont has offered to use its best efforts to effectuate the following:

- Rosemont will proceed with the purchase of the Water Rights currently associated with the Del Lago Dam in accordance with the existing purchase option and sale agreement pending between Rosemont and the Seller.
- Pending the final purchase of the Water Rights, and in compliance with its agreement with the Seller, Rosemont will prepare an application to sever and transfer 413 acre feet per year of the Water Rights to PCRFCD for use by PCRFCD for recreation and wildlife purposes, including fish, as the beneficial use under A.R.S. § 45-151(A) and § 45-172(A). The place of beneficial use will be as described by PCRFCD, but generally in the area between the Del Lago Dam and Colossal Cave Road.
- The severance and transfer application will, if necessary, be submitted to Cortaro Marana Irrigation District for review and approval and, upon such approval, submitted to the Arizona Department of Water Resources (ADWR) for final approval. Rosemont will coordinate with ADWR to prepare a decision and order of severance and transfer to be effective upon issuance of a quit claim deed from the Seller of the Water Rights to Rosemont, and a quit claim deed from Rosemont to PCRFCD, such that the severance and transfer can be approved (subject only to these conditions) before December 31, 2014.
- All of the 413 acre feet to be transferred to PCRFCD will come from the 1908 priority right to be acquired by Rosemont.
- Rosemont will cooperate with PCRFCD to construct new or maintain existing release valves at selected locations along the existing Del Lago pipeline for the purpose of allowing PCRFCD to make controlled releases of its water rights, in

- priority, throughout the year. Reasonable metering equipment will be installed to determine the quantities of the releases.
- PCRFCD will be responsible for holding the water right, and managing the ILF program. It is anticipated that RCC will purchase some number of advance mitigation credits in the ILF program.
- The project is intended to begin releases of the permanent water supply in the first quarter of 2015 and to continue every year thereafter in perpetuity.

We believe that this ILF project represents a unique opportunity to create and permanently maintain true in-stream mitigation based on historic water rights of early priority that have a proven history of availability and use. The split of the water rights between Rosemont and PCRFCD in the earliest (1908) right insures that PCRFCD will have access to 206.5 acre feet of the earliest priority water available, and up to 413 acre feet in almost all years.

This LOI is not binding on either party, and creates no legal obligations. It is intended merely as a statement of interest to proceed in good faith. Neither party will be bound to any obligation unless and until a formal agreements are prepared, approved and executed by the parties. We witness this statement by our mutual signatures below.

Rosemont Copper Company	Control District
By: Jamie Sturgess	By:Suzanne Shields
Its:	Its: Director

# [Rosemont Copper Company Letterhead]

Draft July 9, 2013

Suzanne Shields Director Pima County Regional Flood Control District 97 E. Congress, 3<sup>rd</sup> Floor Tucson, AZ 85701-1797

Re: Letter of Intent on Supplemental Water for Cienega Creek Natural Preserve In Lieu Fee Mitigation Program

Dear Ms. Shields:

This Letter of Intent is intended to memorialize discussions between the Pima County Regional Flood Control District (PCRFCD) and Rosemont Copper Company (Rosemont) concerning a supplemental water supply for the In Lieu Fee (ILF) mitigation project contemplated by PCRFCD and the Tucson Audubon Society to be created in Pantano Creek.

Rosemont has offered to use its best efforts to effectuate the following:

- Rosemont will proceed with the purchase of the Water Rights currently associated with the Del Lago Dam in accordance with the existing purchase option and sale agreement pending between Rosemont and the Seller.
- Pending the final purchase of the Water Rights, and in compliance with its
  agreement with the Seller, Rosemont will prepare an application to create a
  Managed Underground Storage Faciltiy (MUSF) in Pantano Creek. Rosemont
  will reserve 412.3 acre feet per year of the Water Rights to use either for storage
  in the MUSF, or for an exchange of water to be stored in the MUSF, but in any
  event to commit to deliver 412.3 acre feet to the MUSF, generally in the area
  between the Del Lago Dam and Colossal Cave Road.
- 184.755 acre feet of this 412.3 acre feet to be delivered to the MUSF will come from the 1908 priority right to be acquired by Rosemont, and the remaining 227.545 acre feet will come from the 1933 priority right to be acquired by Rosemont.
- Rosemont and PCRFCD will cooperate with the Arizona Department of Water Resources to obtain the MUSF permit and determine appropriate loss factors for water storage in the MUSF due to evaporation and riparian transpiration. This "lost" water would ultimately accrue to the benefit of the ILF project.
- The MUSF is intended to begin accepting water releases in the first quarter of 2015 and to continue every year thereafter in perpetuity.

In addition to the foregoing, Rosemont will acquire the right to purchase and abandon an existing well (ADWR Well No. 55-602949) that is currently located near the Pantano

Dam and represents a possible point of diversion that could interfere with stream flow otherwise accruing to the ILF project. In exchange, PCRFC shall grant Rosemont the right to construct a well downstream of the Preserve, near Colossal Cave Road on land owned by PCRFCD, together with legal access to the well site.

We believe that this MUSF will greatly enhance the ILF project by introducing significant additional quantities of Pantano Creek surface water into the area of the ILF project. The agreement by Rosemont to provide the earliest (1908) right to PCRFCD as PCRDCD's primary water right should alleviate any concern that in times of drought or other shortages PCRFCD will have access to the base supply of 413 acre feet of water in almost all years.

This LOI is not binding on either party, and creates no legal obligations. It is intended merely as a statement of interest to proceed in good faith. Neither party will be bound to any obligation unless and until a formal agreements are prepared, approved and executed by the parties. We witness this statement by our mutual signatures below.

Rosemont Copper Company	Pima County Regional Flood Control District
By:	By:Suzanne Shields
Its:	Its: Director

# Pantano Creek Mitigation Program Del Lago Water Rights Allocations July 9, 2013

# **Summary of the Available Water Rights:**

Cert. No.	Acres	Priority Date	Volume of Water
BB-610.0002	119.551	1908	597.755
665.0003	95.509	May 18, 1933	477.545
617.0002	9.291	May 20, 1935	46.455
Totals	224.351		1121.755

# **Intended Allocations:**

Location	1908 Right	1933 Right	1935 Right
Upper Cienega		150.0	
Creek (AZ G&F)			
Davidson		0.0	46.455
Canyon			
(PCRFCD)			
Pantano Creek		100.0	
Above Dam			
(PCRFCD)			
Pantano Creek	413.0	0.0	
ILF (PCRFCD)			
Pantano Creek	184.755	227.545	
MUSF			
(Rosemont)			
Totals	597.755	477.545	46.455

Rosemont retains total of 412.3 af